

**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT NO. 36155**

**I. INTRODUCTION**

This Class I Air Quality Control Permit is for the operation of a Municipal Solid Waste Landfill. The Gray Wolf Regional Facility (GWRF) is owned and operated by Waste Management of Arizona, Inc. (WMA). This is a renewal of Permit # 1000864.

**A. Company Information**

Facility Name: Gray Wolf Regional Landfill

Facility Address: 23355 East Highway 169  
Dewey, AZ 86327, Yavapai County

Mailing Address: PO Box 1240  
Dewey, AZ 86327

**B. Background**

This source is a Municipal Solid Waste Landfill and waste hauling operation.

**C. Attainment Classification**

Gray Wolf Regional Facility is in an Attainment Area with respect to all the criteria pollutants.

**II. FACILITY DESCRIPTION**

**A. Process Description**

The GWRF was designed as an area fill landfill. The GWRF has been designed to exceed a design capacity of 2.5 million cubic meters and 2.5 million megagrams. The primary activities of GWRF are the transportation and deposition of refuse along with the excavation and stockpiling of cover material and soil. A defined area of the landfill is excavated, lined, and prepared to receive waste prior to the acceptance of refuse. Cell construction will continue as a cut-and-fill operation, and excavated materials will be used for daily, intermediate, and final cover. Existing site development includes unpaved access roads, an office/scalehouse building, truck scale, fuel storage tanks, water storage tank, stormwater retention pond, temporary hazardous waste storage, utilities, leachate/evaporation pond, truck shop, maintenance facility, perimeter berms, security fencing, and hauling truck operations, truck parking, and container storage.

The natural decomposition of the waste materials, and to some extent the evaporation of volatile compounds in the waste materials, constitute the primary sources of emissions. The landfill gas (LFG) that is emitted from the landfill is fundamentally 50 percent methane (CH<sub>4</sub>) and 50 percent carbon dioxide (CO<sub>2</sub>), with a fraction containing non-methane organic compounds (NMOCs), and hazardous air pollutants (HAPs). Particulate emissions due to traffic on unpaved roads, application of a cover layer of soil, soil stockpiling, cover layer distribution, and wind erosion make up a significant amount of particulate emissions (defined as less than 10 microns in size or PM<sub>10</sub>).

The lining system consists of geosynthetic clay liner (GCL) overlaid by a high density polyethylene (HDPE) geosynthetic liner and a blanket leachate collection and recovery system (LCRS). The final cover system may consist of an 18-inch thick foundation layer, a geomembrane liner, a one-foot sand cover layer, and a 6-inch thick vegetative layer or other ADEQ approved final cover.

A fluid collection system is installed over lined portions of the disposal area to remove the leachate. The leachate collection system consists of a blanket drainage layer that is sloped to perforated pipes. The perforated leachate collection pipes are sloped to sumps. The sumps are accessed by sideslope riser pipes, and the leachate is withdrawn from the sumps via pumping. The leachate is then delivered to an on-site leachate/evaporation pond or is used as a dust suppressant on the daily landfill cover.

GWRF accepts non-hazardous industrial and solid wastes, construction and demolition debris, green waste, white goods, special wastes and other non-hazardous solid wastes. Wastes that are conditionally accepted for disposal at the site include the following:

- Green Waste – The GWRF accepts yard clippings and other green waste for disposal or cover;
- White Goods - The GWRF accepts large appliances that are void of Chlorinated fluorocarbons (CFC's);
- Construction and Demolition Debris - The GWRF accepts construction and demolition debris (i.e., waste building materials, packaging and rubble from construction, remodeling, and repair and demolition operations of pavements, houses, buildings, and structures);
- Tires - The GWRF segregates waste tires detected in the solid waste and temporarily stores the tires until they are shipped off-site.
- Asbestos - The acceptance and disposal of friable asbestos and non-friable asbestos containing materials at the GWRF is performed according to 40 CFR §61, Subpart M, National Emission Standards for Asbestos §61.149 (Standard for asbestos mills), §61.150 (Standard for demolition, renovation, fabricating and manufacturing), §61.154 (Standard for active waste disposal sites), and §61.155 (Standard for asbestos conversion operations).

- Sewage Sludge - The GWRF conditionally accepts sewage sludge. WMA requires the generator, or an agent for the generator, to provide documentation that adequately profiles the wastes. Waste will be disposed if it passes the paint filter evaluation (USEPA Test Method 9095) and the generator has provided documentation that the waste is not a hazardous waste. WMA retains the option to use sludge as daily cover material, provided it meets the required performance standards and received ADEQ approval.
- Petroleum-Contaminated Soil (PCS) - The GWRF accepts PCS that is not regulated as a hazardous waste and contains no free liquids. The acceptance and disposal of PCS within lined waste management units at the GWRF is handled according to Best Management Practice outlined in A.A.C. R18-13-1601 through 1614;
- Fly Ash - The GWRF accepts incinerator or other process ash resulting from combustion processes, if the waste is not regulated as a hazardous waste and contains no free liquids.

The GWRF is open six days a week.

#### **B. Air Pollution Control Equipment:**

Dust control measures such as the water truck are used to mitigate dust emissions at the site. Soil stabilization materials are used on an as-needed basis. Additionally, the water tank is used several times per day. The water truck is filled and moves at slow speeds across the site, spraying a wide area with water to reduce particulate emissions.

### **III. COMPLIANCE HISTORY**

Gray Wolf Regional Landfill has been in compliance with the permit conditions.

### **IV. EMISSIONS**

The uncontrolled emissions for years 2005 and 2011 are given below.

**Table 1: Facility-wide Emissions**

Pollutant	Emissions (Yr 2005)	Emissions (Yr 2011)
	Ton/year	Ton/year
NMOC	9	16
PM	20.32	27.31
PM <sub>10</sub>	20.32	27.31
NO <sub>x</sub>	82.18	82.18
SO <sub>2</sub>	5.42	5.42

Pollutant	Emissions (Yr 2005)	Emissions (Yr 2011)
	Ton/year	Ton/year
VOC	17.36	21.51
CO	58.97	58.97
HAPs	8.27	12.39

The emissions are based on 2% annual disposal growth rate. The Gray Wolf Regional Landfill is not expected to exceed the 50 Mg/yr threshold during the current permit period. The NMOC emissions at the end of the permit period will be approximately 16 Mg/yr.

The Permittee must recalculate the emissions when the annual disposal growth rate is greater than 2%. When the landfill approaches the 50 Mg/yr threshold, it will be required to implement a landfill gas collection system.

## V. APPLICABLE REGULATIONS

The applicable regulations were identified by the Department as part of the permitting process. If necessary, the source is required to list any additional regulations that may be applicable.

**Table 2: Verification of Applicable Regulations**

Unit	Date of Construction / Installation	Control Device	Rule	Verification
MSW Landfill	N/A	Required when NMOC > 50 Mg/yr	40 CFR §60, Subpart WWW, 40 CFR §63 Subpart AAAA	40 CFR §60 Subpart WWW regulates emissions of landfill gas from MSW landfills. National Emission Standard for Hazardous Air Pollutants (40 CFR §63 Subpart AAAA) requires a Startup, Shutdown and Malfunction (SSM) plan to be in place when the facility has a collection and control system in place.
Generators	N/A	N/A	R18-2-719	This standard applies to all stationary rotating machinery
Fugitive dust sources	N/A	Water and other reasonable precautions.	Article 6 of the A.A.C.	These standards are applicable to all fugitive dust sources.

**Table 2: Verification of Applicable Regulations.....Continued**

<b>Unit</b>	<b>Date of Construction / Installation</b>	<b>Control Device</b>	<b>Rule</b>	<b>Verification</b>
Asbestos Handling	N/A	N/A	40 CFR §61.154 (Subpart M)	Standards for disposal of asbestos-containing waste
Mobile sources	N/A	Water Sprays/Water Truck for dust control	Article 8 of the A.A.C.	Opacity requirements for smoke and dust for mobile sources (construction equipment, etc.).
Stratospheric Ozone	N/A	N/A	40 CFR §82, Subpart F	Requirements for control of ozone-depleting substances
Solvent Cleaning Activities	N/A	N/A	A.A.C. R18-2-730	Standards of Performance for Unclassified Sources

## **VI. PREVIOUS PERMITS**

**Table 3: Previous Permit Information**

<b>Date of Permit Issuance</b>	<b>Permit Number</b>	<b>Application Basis</b>
October 11, 2000	1000864	Operating Permit

## **VII. PREVIOUS PERMIT CONDITIONS**

This operating permit was issued to Gray Wolf Regional Facility on October 11, 2000, for the operation of a Municipal Solid Waste Landfill.

**Table 4: Permit # 1000864 Conditions**

<b>Condition No.</b>	<b>Determination</b>				<b>Comments</b>
	<b>Revise</b>	<b>Keep</b>	<b>Delete</b>	<b>Stream-line</b>	
Att. A.	x				General Provisions - Revised to represent most recent permitting language.
Att B.I.	x				Facility Wide Requirements - Revised to represent most recent permitting language.
Att B.II	x				NMOC Compounds
Att B.III	x				Collection and Control System Requirements
Att B.IV	x				Asbestos Requirements

**Table 4: Permit # 1000864 Conditions.....Continued**

Condition No.	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att B.V	x				Storage Tank Requirements
Att B.VI	x				Fugitive Dust Requirements - Revised to represent most recent permitting language.
Att B.VII	x				Stationary Rotating Machinery Requirements
Att B.VIII	x				Mobile Sources Requirements - Revised to represent most recent permitting language.
Att B.IX	x				Stratospheric Ozone Requirements
Att B.X	x				Other Periodic Activities Requirements
Att C	x				Equipment List
Att D				x	Reporting Format

## **VIII. MONITORING AND RECORDKEEPING REQUIREMENTS**

### **A. NMOC Emissions**

#### **Monitoring Requirements**

The permit contains requirements for calculating and monitoring NMOC emissions on an annual basis, per 40 CFR §60, Subpart WWW. The Permittee is required to keep track of NMOC emissions in order to determine when and if the 50 Mg/yr threshold will be reached. When the threshold is reached, then a collection and control system is required, and additional monitoring requirements are triggered. It is anticipated that Gray Wolf Regional Landfill will not trigger the additional requirements until the end of the permit term; however, they are included in the permit.

Compliance Assurance Monitoring (CAM) requirements do not apply to this facility, because the facility does not currently have any kind of pollution control device, and pre-control emissions are below the major source threshold.

### **B. Stationary Rotating Machinery**

#### **1. Monitoring Requirements**

##### **Opacity**

The permit requires bi-weekly EPA Reference Method 9 of stationary rotating machinery, when in operation, by a certified Method 9 observer.

2. Recordkeeping Requirements

The Permittee is required to record the emission point being observed, date, time and the results of all observations made, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee will keep a record of the corrective action taken to bring the opacity below the standard.

**C. Fugitive Dust**

1. Monitoring Requirements

Opacity

The permit requires bi-weekly EPA Reference Method 9 of fugitive emissions by a certified Method 9 observer.

2. Recordkeeping Requirements

The Permittee is required to record the emission point being observed, date, time and the results of all observations made, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee will keep a record of the corrective action taken to bring the opacity below the standard.

**D. Asbestos**

The Permittee is required to maintain shipment records of all asbestos containing materials that enter the landfill.

**E. Ozone Depleting Materials**

The Permittee is required to comply with the requirements of 40 CFR 82.

**IX. INSIGNIFICANT ACTIVITIES**

The applicant has requested the following activities to be deemed as “insignificant”. According to A.A.C. R18-2-101.57, for an activity to be deemed “insignificant”, there should be no applicable requirement for the activity. This was the basis used to determine if the activities in the following list qualify as an “insignificant” activity under Arizona law.



**Table 4: Insignificant Activities**

Activity	Insignificant Yes/No	Reason and Applicable Regulation
IC engines driven air compressors, and pressure washer	No	A.A.C. R-18-2-719 applicable.
10,000 gallon diesel storage tank	Yes	Diesel storage – A.A.C. R18-2-101.57.c
10,000 gallon diesel storage tank	Yes	Diesel storage – A.A.C. R18-2-101.57.c
1000 gallon unleaded gasoline tank	Yes	Gasoline storage – A.A.C. R18-2-101.57.b
2,000 gallon diesel storage tank	Yes	Diesel storage – A.A.C. R18-2-101.57.c
100 gallon diesel fuel tank	Yes	Diesel storage – A.A.C. R18-2-101.57.c
500 gallon diesel fuel tank	Yes	Diesel storage – A.A.C. R18-2-101.57.c
Landscaping, building, maintenance or janitorial activities	Yes	A.A.C. R18-2-101.57.a
Hand-held or manually operated tools or equipment for cutting, buffing, polishing, carving, drilling, machining, sanding, sawing and grinding.	Yes	A.A.C. R18-2-101.57.f
Brazing or welding equipment	Yes	A.A.C. R18-2-101.57.j

## **X. NONROAD ENGINES**

The Department has determined that the following engines meet the requirements of nonroad engines as specified in 40 CFR 89.2 and 40 CFR 90.3. The engines listed below are portable or transportable and are positioned on a service truck or pulled on wheels. Also, the engines will not remain at one location for more than 12 consecutive months.

<b>EQUIPMENT TYPE</b>	<b>MAX. CAPACITY</b>	<b>MAKE</b>	<b>S.NO / EQUIPMENT ID NUMBER</b>
Diesel Light Plant	10 hp	Ingersoll Rand	LP-1
Gasoline Water Pumps (3)	< 10 hp	Briggs & Stratton	WP-1, WP-2, WP-3
Gasoline Air Compressor	11 hp	Subaru	AC-1
Gasoline Air Compressor	21.5 hp	Kohler	AC-2
Diesel Air Compressor	50 hp	Ingersoll Rand	322557-ve1221



## **XI. LIST OF ABBREVIATIONS**

A.A.C.....	Arizona Administrative Code
CAM.....	Compliance Assurance Monitoring
CFR.....	Code of Federal Regulations
CO .....	Carbon Monoxide
EPA.....	Environmental Protection Agency
HAPs .....	Hazardous Air Pollutants
NO <sub>x</sub> .....	Nitrogen Oxides
NSPS.....	New Source Performance Standard
PM.....	Particulate Matter
PM <sub>10</sub> .....	Particulate Matter Less than 10 Microns
PTE.....	Potential to Emit
SO <sub>2</sub> .....	Sulfur Dioxide
VOC.....	Volatile Organic Compounds
Yr.....	Year